RICE | RCEL
Rice Center for Engineering Leadership

Dr. David Van Kleeck, Professor in the Practice of
Engineering Leadership

RCEL 100: Self-Awareness and the Engineering Leader

Fall 2020, CRN #13205 , W 4:00-6:05 p.m., Location: PCF-4

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Readings

1. David A. Whetten and Kim S. Cameron (2011). *Developing Management Skills (8th or 9th ed.)* Pearson Prentice Hall (**Required Course Text, 8th Edition is preferred**).
2. National Academy of Engineering. *The Engineer of 2020: Visions of Engineering in the New Century*. Washington, D.C.: The National Academies Press. Available free online.
3. A reading packet is required and available through Harvard Business School Publishing. I will provide a URL through which these can be purchased directly from Harvard University.
4. Required readings will also be available through the Fondren Library's electronic course reserves called ARES, see https://rice.ares.atlas-sys.com/ares/
5. Other readings may be available through our course website on Canvas.

Course Overview

The purpose of this course is to prepare students to become future engineering leaders. Engineering leadership is an emerging innovation in both education and practice and our course will prepare students to begin their development journey toward this end. The course is a front-end requirement for RCEL's engineering leadership certificate and premised on the assumption that leadership is an honorable activity that can be learned.

Course Format

Our class is designed around multiple learning methods, including lectures and discussions, peer group learning, case studies, videos, presentations, guest speakers, role plays, laboratories, and other experiential learning activities. The readings for the class include a combination of academic journal articles, practice-oriented articles, book chapters, videos, case studies, and other materials. Most of these readings review theories or practical actions that pertain to specific leadership topics.

Learning domains and objectives

- **Communicate Effectively**: Apply effective oral, written, and interspersonal communication strategies
- **Make Timely Decisions**: Apply analytical and creative problem solving to deliver timely solutions based on the information at hand.
- **Work on Teams:** Understand and analyze team dynamics to empower those around them to be successful in accomplishing team goals.
- **Manage Projects:** Demonstrate knowledge of the basic tools and techniques to deliver projects on time, on budget, and within scope.
- **Self Lead:** Develop self-awareness to build personal mastery, exhibit discipline, and make conscious self-improvement.
- **Create a Vision:** Develop a clear vision that set future personal and team direction.
- **Apply Ethics and Analyze Values:** Analyze personal and organizational values and apply ethics concepts to his/her decision-making.
- **Jump Start the Next Step:** Demonstrate leadership concepts in a least one specialization; Research, Industry, Pathways to non-Engineering careers, and Entrepreneurship (RIPE)

The RCEL leadership framework is composed of four domains connected by a common thread of communication. Distributed among the four domains are twenty one specific leadership competencies.

RCEL Competency Domains

Skills Learned in RCEL 100

- Leading positive change
- Communicating a vision
- Managing oneself
- Building relationships
- Giving and receiving feedback
- Building emotional intelligence
- Acting on courage and wisdom
- Developing sources of power
- Exercising influence
- Adaptive learning styles
- Analytical problem solving
- Setting and achieving goals
- Managing stress
- Developing personal skills

Grading

30%	Self-Awareness Paper
20%	Exams
20%	Leader Journal
20%	Engineer Interview Paper
10%	Class Participation

Self Awareness Paper (30%)

One of the most important attributes of a successful leader is self-knowledge. The purpose of this exercise and paper is to enable you to learn more about your own unique strengths as a potential leader (and leader). Based on the self-assessments we will complete throughout the semester and on targeted

feedback from others, you will discover some of the talents, competencies, and principles that define who you are and the kind of leader that you can become. This paper will require a considerable amount of self-exploration on your part, but the results can become one of the most valued learning outcomes of this class.

Many of the skills and other personal attributes learned in this course can be measured. The assessments located at the beginning of each textbook chapter and others will be used to measure these leadership attributes. Completion of all of these assessments is required for the class and become a formal part of the Self-Awareness paper.

The results of assessments can be used for many developmental purposes, including the creation of the Leadership Development Plan. The Self-Awareness portion of the RCEL Leadership Development Plan will begin in this class and evolve throughout the RCEL certificate experience. The Leadership Development Plan will be created in RCEL 200 and will be used to establish concrete, actionable, and measureable "next steps" in your development.

Complete instructions on the content and format for this paper will be provided in class and are in Canvas. The overall content of the paper will be developed throughout the semester following a SMART goal plan. The final, complete version of the paper is due as noted on the syllabus. Late papers will not be accepted.

The Self-Awareness paper will be used as a tool for planning, measuring, and demonstrating your personal development throughout the certificate experience. It is a living document that should be further developed as you gain additional knowledge and insights. This paper will also be used for coaching and feedback throughout the RCEL certificate experience and, we hope, in your post-Rice development.

Individual Class Participation (10%)

Students will be expected to actively contribute to class discussions for several reasons. First, we will utilize case studies and other methods of active learning that depend on class discussions. Second, your ability to express your ideas effectively is essential to leadership and finally, and most importantly, everyone learns more through active engagement.

Class participation grades are based on attendance, contributions to class discussions, and engagement in peer group learning. The quality of in-class contributions will be based on the following:

- **Accuracy:** comments are informed by the assigned readings.
- **Relevance:** comments contribute meaningfully to the flow of the discussion**.**
- **Creativity:** comments reflect original perspectives that stimulate further discussion.
- **Judiciousness:** comments are well reasoned, persuasive, and moderated (i.e. frequency is neither too high nor too low).

In order to make sure that we hear from everyone in class, I will frequently call on students throughout the semester.

Many of the class sessions will be structured in small group discussions that focus on specific leadership development topics, all of which align with the Reflected Best Self paper and the RCEL Leadership Framework. Everyone will engage in these groups with rotating responsibility for discussion leadership. Faculty will assign these groups early in the semester and more guidelines will be provided about the scope and process for these discussions.

Exams (20%)

There will be weekly exams consisting of 10 multiple-choice, true/false questions, and short answer questions. They will be based on readings, lectures, and class discussions. The tests will be administered online in Canvas

Make-up exams will be administered only under circumstances involving serious and documented illnesses, university-excused absences, a death in immediate family, or other major event of comparable seriousness. If such an event occurs, students must inform me immediately to coordinate a make-up. Documentation will be required.

Leadership Journal (20%)

Part of the learning process for mastering leadership skills is a focused reflection on experiences, and recording the personal observations and insights gained. This is best accomplished through the use of a "leadership journal" maintained by the student. In this course, each student will be provided a journal to use for documenting leadership experiences during the course of the term. It is expected that the student will hand write their reflections in the journal based on weekly practice assignments. The journal is for the personal use of the student in formulating the leadership development plan that is part of the RBS paper. I expect students to schedule at least one office visit with either of the instructors to review progress, answer questions, and check the use of the journal.

Engineer Interview Paper (20%)

During this semester, students will pair up to interview an engineering leader of their choice. Examples may include engineering project leaders, leading technical experts, entrepreneurs who are engineers, or other leaders that are trained engineers. If you have any doubts about whether an interviewee will qualify for this assignment, please let me know prior to conducting the interview. The paper should be a five-page (maximum), double-spaced summary of the insights you gained from the interviews. A guide for conducting the interview will be provided in Canvas.

The purpose of these interviews is to provide students with the opportunity to learn about how course concepts and other materials relate to the real world of leaders in engineering or other contexts. It is also intended for students to explore what differentiates an engineer from an engineering leader.

Class Norms

In-person Classroom

- Open debates and disagreements about ideas are encouraged.
- Do not engage in distracting side conversations while others are talking.
- Turn off cellular phones before class begins.
- Use laptops only for taking notes; otherwise they should remain closed.

- Raise your hand before speaking.

Virtual Classroom

- Unless internet bandwidth is insufficient, insure video feed is on
- Mute your microphone when you are not speaking
- Avoid talking over other participants
- Use the chat room function or raised hand feature to ask questions.
- Avoid using the chat room function to carry on side conversations
- Be on time in connecting to the class. This means that you should log in no less than 5 minutes prior to scheduled class start time.

General Course Expectations

Preparation	Plan to come to class having read the readings and viewed the lecture recordings for the day and prepared to contribute to class discussions.
Proactivity	We encourage students to be proactive in both planning and working. If you are experiencing - or anticipate experiencing - any problems, difficulties, or uncertainties, then let us know ASAP.
Punctuality	Plan to come to class *on time* and complete all assignments *on time*.
Personal Responsibility	We expect all students to take responsibility for their learning, course obligations, and commitment to academic honesty.

Rice Honor Code

Students are responsible for maintaining the highest standards of honesty and integrity in their work and conduct. Students should be familiar with what constitutes plagiarism and always cite proper references of outside materials. Students should abide by the honor pledge they made upon entering Rice and include the following statement on all submitted written assignments; "On my honor, I have neither given nor received any unauthorized aid on this (paper or exam)". Discussing course materials with students who have taken the course is acceptable; however, students should use the course TA's as their primary resource. The course undergoes frequent changes from semester to semester, and the TA's will be more familiar with current course content. Receiving any form of assistance (coaching or use of previous exams) for the quizzes in this course is considered a violation of the Honor Code.

Special Needs

If you have a documented disability that may affect academic performance, you should:

- Make sure this documentation is on file with Disability Resource Center (Allen Center, Room 111 / adarice@rice.edu / x5841) to determine the accommodations you need
- Meet with me to discuss your accommodation needs.

Title IX Statement

At Rice University, unlawful discrimination in any form, including sexual misconduct, is prohibited under Rice Policy on Harassment and Sexual Harassment (Policy 830) and the Student Code of Conduct. Policy 830 requires faculty and staff who receive information, directly or indirectly, regarding harassment,

sexual harassment, sexual assault, dating violence, or stalking by or against a University student or employee to report the incident to EEOP/AA or a Deputy Title IX Coordinator. While this report does not in itself constitute a formal complaint, a student or employee who has experienced prohibited conduct may have the option of filing a formal complaint. For more information, please visit safe.rice.edu, titleixrice.edu, or email titleixsupport@rice.edu."

Schedule, Topics, and Activities

Syllabus may change slightly to accommodate unplanned opportunities or circumstances.

Week	Topic and Assignments	Class Activities
0 8/26	**Assignment for this week prior to class** • Complete NEO/IPIP Personality Assessment – online http://www.personal.psu.edu/j5j/IPIP/ipipneo120.htm • RCEL Competency Framework Video • Bloome's Taxonomy Video • Networking Interview Video • Personal Greatness Video • The Leadership Journal Video • Week 1 Quiz	**Brief course Overview** **Journaling** **Dudley Ted Talk** **Laboratory – On D'Spot**
1 9/2	**Engineering Profession** **Assignments for this week prior to class** • Quiz #1 • Read the following in Whetten & Cameron Introduction Time Management pp 95-100 • National Academy of Engineering (2004) *The Engineer of 2020: Visions of Engineering in the New Century*. National Academies Press. Review the first four chapters, focusing especially on chapters three and four. Available for free online http://books.nap.edu/catalog.php?record_id=10999 • Do the Motivation to Lead Self Assessment • Leadership Journal: See Journal #1 Assignment in Canvas •	• Discuss readings/Videos • NEO/IPIP discussion • Time Management discussion • Motivation to Lead Assessment
2 9/9	**Self Awareness** **Assignments for this week prior to class**	Discuss the following: • Sensitive Line • Cognitive Style

	• Quiz 2 • WC – Management Assessments for Chapter 1 (Canvas) • WC Read Chapter 1 8th edition pp 57-83 9th edition pp 44-67 Read the Peter Drucker article "Managing Oneself" in the HBS coursepack • Do the Motivation to Lead Assessment (Canvas) • Begin the Engineer Interview Assignment • Leadership Journal: See Journal #2 Assignment in Canvas •	• Locus of Control • Tolerance of Ambiguity • Motivation to Lead • Personal Vision • Analyzing a case study • Introduce the Self-Awareness paper – feedback • Adam Leipzig TED Talk
3 9/16	**Laboratory – Stress Management** **Assignments for this week prior to class** • Quiz 3 • Do WC Chapter 2 Self Assessments (Canvas) • WC Read Chapter 2 – Stress Management 8th edition pp 112-146 9th edition pp 90-121 • Emails sent for Self-Awareness Paper feedback • Write your resume (no more than one page) • Leadership Journal: See Journal #3 Assignment in Canvas •	• Stress Management Laboratory
4 9/23	**Managing Personal Stress** **Assignments for this week prior to class** • Quiz 4 • Leadership Journal: See Journal #4 Assignment in Canvas • Preview Week 4 videos	• Stess Management Lab debrief • Review of Self Assessments for Week 2 • Leadership Competency Prioritization • Procrastination TED Talk • Kelly McGonigal TED Talk
5 9/30	**Preparing Your Self Awareness Paper** **Assignments for this week prior to class** • Quiz 5 • Leadership Journal: See Journal #5 Assignment in Canvas • Week 5 Reading – Self Awareness Paper Guidelines **Assignments for next week**	• Using the RCEL Leadership Framework matrix • Methodology for prioritization of competencies

	• Nansook Park, Christopher Peterson, and Martin E. P. Seligman (2004) Strengths of Character and Well–Being, Journal of Social and Clinical Psychology, pp. 603-619. (ARES) • Hogan and Kaiser (2005) What we know about leadership. *Review of General Psychology*, pp. 169-180. In ARES. • Leadership Journal: See Week 12 Journal Assignment in Canvas •	
6 10/7	**Solving Problems Analytically and Creatively** **Assignments for this week prior to class** • Quiz 6 • Leadership Journal #6 assignment in Canvas • Do WC Chapter 3 self-assessments (Canvas) • WC – Read Chapter 3 – Solving Problems Analytically & Creatively 8th edition pp 174-209 9th edition pp 139-172 Preview Week 6 video materials • Read assigned case study – In Harm's Way Article	• Review Self Assessments • Steps in Problem solving • Ideo Video • Group discussion of the assigned "In Harm's Way" article
7 10/14	**Laboratory – Systems Thinking** **Assignments for this week prior to class** • Complete the Engineer Interview Assignment • Quiz 7 • Leadership Journal: See Week 7 Journal Assignment in Canvas	• Systems Thinking Lab
8 10/21	**Supportive Communication** **Assignments for this week prior to class** • Leadership Journal #8 assignment in Canvas • Do WC Chapter 4 Self Assessments (Canvas) • WC – Read Chapter 4 — Communications • 8th edition pp 239-265 • 9th edition pp 190-215 • Preview Week 8 Video Materials	• Review Self Assessments • Giving and Receiving Feedback • Coaching Exercise • Importance of Trust • Oprah Video

	Assignments for next week • Do Week 8 Quiz • Leadership Journal: See Week 8 Journal Assignment in Canvas	
9 10/28	**Laboratory – Active Listening**	• Role play
10 11/4	**Building Power and Influence** **Assignments for this week prior to class** • Leadership Journal: see Journal #10 in Canvas • Do WC Chapter 5 self-assessments (Canvas) • WC – Read Chapter 5 – Gaining Power and Influence 8th edition pp 283-309 9th edition pp 228-247 • Preview Week 10 video materials • Read and prepare case study for the Jonah Creighton Case (HBS Coursepack) • Leadership Journal: See Week 10 Journal Assignment in Canvas •	• Video • Jonah Creighton Case Study role play • Use of LinkedIn • Guest Speaker • Owl Mentoring Network
11 11/11	**Managing Relationships/Managing Conflict Lab** **Assignments for this week prior to class** • Do Quiz 11 • Leadership Journal: See Week 11 Journal Assignment in Canvas • Complete the Rokeach Values Assessment (Canvas) • Do WC Chapter 7, 8, and 9 self-assessments (Canvas) • Preview Week 11 video materials • Read WC Chapter 7 – Managing Conflict 8th edition pp 376-403 9th edition pp 306-332 • Jane Dutton and Emily Heaphy (2003) The power of high quality connections. In Cameron, K., J.E. Dutton and R.E. Quinn, Positive Organizational Scholarship (San Francisco: Berrett-Koehler), pp. 263-278.	**Hawaiian Shirt Day** • Discuss readings • Managing Conflict Lab
12 11/18	**Laboratory – Blast Off** **Assignments for this week prior to class**	• Blast Off Lab • Course Post-Mortem

	• **Read: "How will you measure your life" in the HBS coursepack**
13 12/2	**End of Semester Wrap-up** **Self-Awareness Paper Due 12/4/2020**